

ABSTRACT

[Abstract]

[Object] To provide a compact, high-sensitivity acceleration sensor that is prevented from being affected by factors other than acceleration, such as a change in temperature.

[Solving Means] An acceleration sensor 1A has a bimorph acceleration-sensor element 2A including first and second resonators 3 and 4 attached to opposite sides of a base plate 5 with respect to a direction in which acceleration is applied. One longitudinal end or both longitudinal ends of the acceleration-sensor element 2A is/are fixed such that the resonators 3 and 4 bend in the same direction in response to the acceleration. Changes in frequency or changes in impedance in the resonators 3 and 4 caused by the bending of the acceleration-sensor element 2A are differentially detected in order to detect the acceleration. The acceleration-sensor element 2A is bendable about a central bending plane N1 in response to the acceleration, the central bending plane N1 being positioned at a central part of the base plate 5 with respect to the application direction of acceleration. Electrodes are disposed on main surfaces of the resonators 3 and 4, the main surfaces being perpendicular to the application direction of acceleration.

The height H_1 of the resonators 3 and 4 in a direction perpendicular to the application direction of acceleration is smaller than the height H_2 of the base plate 5 in the direction perpendicular to the application direction of acceleration.

[Selected Figure] Fig. 2